



Controller Start-up for Custom Solutions
Application 2431
Discharge Temp Control with Room-Load Heat/Cool
Switchover
TEC 0573.11

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Verifying Power to Controller

Verify that the controller is powered up. Check that the BST LED on the controller is flashing (Figure 1). If the BST LED does not flash ON/OFF once per second, refer to the *APOGEE Automation Service Procedures* on InfoLink for troubleshooting information.

NOTES: The Controller Interface Software (CIS) must be Rev. 2.0 or greater.

Update each controller at the field panel immediately after you have completed the controller start-up procedures and made all other changes to the controller's point database, including tuning, etc.

Setting Controller Address and Application

1. Verify that APPLICATION (Point 2) is set to 2299.
2. Display the STARTUP report.
3. Set CTLR ADDRESS (Point 1) to the appropriate address number. Each controller must have a unique address. Normal values are 00 to 31, but the controller will accept values as high as 98.
4. Set APPLICATION (Point 2) to 2431.

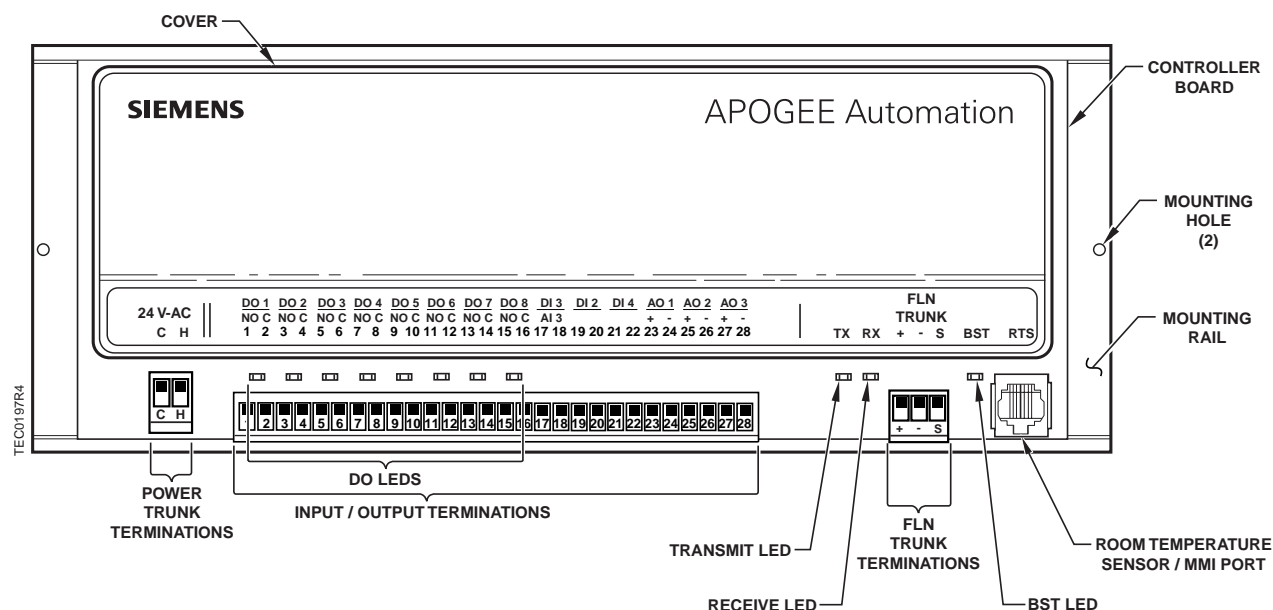


Figure 1. Discharge Temperature Controller with Room-Load Heat/Cool Swchover.

After you set the application, the controller will go through a shut-down/load sequence as it switches from slave mode to the application selected. After the application loads and the OVERVIEW report appears, change to the main report (*DIS TMP CTRL*).

Setting Room Temperature Set Points

1. Display the STARTUP report.
2. If the room temperature sensor has a set point dial, and if RM STPT DIAL (Point 13) is to be used by the controller, then set STPT DIAL (Point 14) to YES; otherwise, set STPT DIAL to NO.

NOTE: If STPT DIAL is set to YES, DAY HTG STPT (Point 7) and DAY CLG STPT (Point 6) will not be used. Instead, the value of RM STPT DIAL will be used.

3. Display the SETPOINTS report.

Set the following points to the appropriate values:

- DAY CLG STPT (Point 6)
 - DAY HTG STPT (Point 7)
 - NGT CLG STPT (Point 8)
 - NGT HTG STPT (Point 9)
4. If the room temperature sensor has a set point dial and the set point dial is to be used, then set RM STPT MIN (Point 11) and RM STPT MAX (Point 12) for the minimum and the maximum allowable room temperature set point values, respectively. Valid values range from 55° to 95°F (13° to 35°C). Common values for these points are 65°F (18°C) for RM STPT MIN and 80°F (27°C) for RM STPT MAX.

Setting Override Time

If using night override, set OVRD TIME (Point 20) to the number of whole hours that an override should last. Otherwise, leave OVRD TIME at its default value of 1 (night override is disabled).

Enabling Wall Switch

If a wall switch is used for day/night control, enable it by setting WALL SWITCH (Point 18) to YES.

Setting the Open and Close Voltages for AO 3

The heating valve for this application is controlled off of 0-10V AO 3. Determine the voltage value that will close the heating valve and enter it into AOV3 CLOSE (Point 30). Determine the voltage value that will open the heating valve and enter it into AOV3 OPEN (Point 31).

Setting the Discharge Air Temperature Hi and Lo Set Points

In the heating mode, DISCH STPT (Point 93) will be set equal to HI DIS STPT (Point 94). In the cooling mode, DISCH STPT will be set equal to LO DIS STPT (Point 95).

Enter the desired values for HI DIS STPT and LO DIS STPT.

Setting Discharge Air Gains

Set the P, I, and D discharge air gains for the system. Refer to the following table.

Point Number	Point Name	Value (Metric)
71	DIS P GAIN	0.4 (0.72)
72	DIS I GAIN	0.015 (0.027)
73	DIS D GAIN	0.0 (0.0)

NOTE: Update each controller at the field panel immediately after you have completed the controller start-up procedures and made all other changes to the controller's point database, including tuning, etc.

The Start-up is complete.